

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

TITLE V/SYNTHETIC MINOR (PROPOSED) No. V-03-020

NEWPORT STEEL CORPORATION

NEWPORT, KY.

JANUARY 12, 2004

BABAK FAKHARPOUR, REVIEWER

PLANT I.D. # 21-037-00006

APPLICATION LOG # 50139 (F069)

**SOURCE DESCRIPTION:**

Newport Steel Corporation (hereby referred to as NPS) is a steel mini-mill located at Wilder, Kentucky. This plant manufactures steel pipes (used for high pressure transmission lines, oil and natural gas exploration wells), sheets, and plates. The process begins with melting of the scrap in the EAF, tapping, further refining in an LMF and then casting in a continuous caster. A surface coating operation also is included (8 inch and 16 inch Pipe Mill Coaters).

The 8" pipe coater was installed in 1976 with potential emissions based on the reported maximum usage rate of 50,000 gallons of clear coat per year. Thus, the VOC potential emissions of 107.5 ton/yr were calculated. Based on their criteria air pollutants emissions, the plant requires a Title V permit. This facility is located in an area designated as nonattainment for ozone. To avoid applicability of 401 KAR 51:052 Review of New Source in or impacting upon nonattainment areas (NSR) and 401 KAR 51:017 Prevention of Significant Deterioration of air quality (PSD), annual limits on criteria air pollutants and lead were imposed as a part of the netting analysis. This plant is also subject to 40 CFR 60 Subpart AAa- Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels constructed after August 17, 1983.

The draft permit was issued, and a public notice was placed in the Kentucky-Community on June 5, 2003. The public comment period expired on July 7, 2003. No comments were received from the public or affected states but comments were received from the applicant (See *Response to Comments* for comments from NPS and the Division's response). Please see Attachment A for a detailed explanation of the changes made to the permit. The permit now being issued is the proposed permit. U.S. EPA has 45 days from the date of the issuance of the proposed permit to comment on it.

In conclusion, an analysis has been made of all relevant information available which pertains to this application. The Division has concluded that the source will comply with all applicable air quality regulations and requirements. Compliance with the terms of the permit will ensure compliance with all air quality requirements. Therefore, it is the Division's proposed/final determination that a Title V/Synthetic Minor permit should be issued as conditioned.

**SOURCE DESCRIPTION:**

Emission Point #3: Natural gas fired Walking Beam Reheat Furnace was removed from property in 2002.

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**SOURCE DESCRIPTION:**

Emission Point #4: Mannesmann Demag cooled copper mold type continuous caster with a rated capacity of 170 tons per hour.

**COMMENTS:**

There are no controls required for this emission point.

The emissions are particulate emissions from the casting. All the emission factors used were taken from AP-42. The applicable regulation for this unit, is 401 KAR 59:010, New process operations. Compliance with the limits of this requirement shall be demonstrated thorough recordkeeping as listed in the permit.

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**SOURCE DESCRIPTION:**

Emission Point #8: Continuous steel pipe coating using a clear coat lacquer to coat pipes between 4" and 8" diameter, with a maximum usage of 50,000 gallons of clear coat per year.

**COMMENTS:**

No specific control equipment is required to be used at this point. However, the VOC content of the coating used is required to be below 4.3 lbs per gallon. The only applicable regulation is 401 KAR 61:132, Existing miscellaneous metal parts and products surface coating operations. However, the control equipment requirements of this regulation are not required as long as only exempt clear coat, with a VOC content below 4.3 lbs/gal, is used.

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**SOURCE DESCRIPTION:**

Emission Point #9: Continuous steel pipe coating using a clear coat lacquer to coat pipes between 4" and 16" diameter, with a maximum usage of 18,000 gallons of clear coat per year.

**COMMENTS:**

No specific control equipment is required to be used at this point. However, the VOC content of the coating used is required to be below 4.3 lbs per gallon. The only applicable regulation is 401 KAR 59:225, New miscellaneous metal parts and products surface coating operations. However, the control requirements of this regulation are not required as long as only exempt clear coat, with a VOC content below 4.3 lbs/gal, is used. The permit requires the emissions from this point to stay below 38.7 tons per year to preclude the construction of this unit from being consider a major modification to a major source in a nonattainment area.

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**SOURCE DESCRIPTION:**

Emission Point #10: Onsite landfill used for industrial waste.

**COMMENTS:**

Only fugitive particulate emissions are generated at this point. The only requirement for this activity is that the dust emissions be kept to a minimum and that no household garbage be included in the landfill.

Emission factors used were based on numbers presented by the company and the SCC units used are tons of slag processed.

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**SOURCE DESCRIPTION:**

Emissions Point #11: Haul roads, paved and unpaved.

**COMMENTS:**

Only fugitive particulate emissions are generated at this point. The only requirement for this point is that the dust emissions be kept to a minimum through the watering of unpaved roads and keeping paved roads clean.

Emission factors used were based on numbers presented by the company and the SCC units used are tons of steel produced, since the road usage will depend on the production rate of the plant.

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**SOURCE DESCRIPTION:**

Emission Point #12: Electric Arc Furnace (EAF), Brandt Baghouse, and Dust Handling equipment. An AC EAF with oxy-fuel burners and O<sub>2</sub>/C lances with a maximum capacity of 150 tons of steel produced per hour, averaged over three heats, and the associated dust handling equipment for the Brandt baghouse. The emissions during on-line operations are vented by direct shell evacuation through a DEC as well as a canopy hood. The emissions during off-line operations are vented by the canopy hood above the furnace. The emissions captured by the DEC and the canopy hood are vented to the Brandt baghouse. On-line operations shall consist of the operation of the furnace beginning at the termination of the initial charging and ending at the initiation of the tapping, excluding any intermediate charging period. All other operations of the EAF shall be considered off-line operation.

**COMMENTS:**

Particulate emissions from the baghouse(s) shall not exceed 0.0052 grains/dscf (12 mg/dscm) - 40 CFR §60.272a (a) (1).

Visible emissions from the baghouse(s) shall not equal or exceed 3% opacity - 40 CFR §60.272a (a) (2).

Visible emissions from the shop not captured to the baghouse shall not equal or exceed 6% opacity - 40 CFR §60.272a (a) (3).

Visible emissions from the dust handling equipment of the Brandt baghouse shall not equal or exceed 10% opacity - 40 CFR §60.272a (b).

Emissions of nitrogen oxides, carbon monoxide, VOC, sulfur dioxide and particulates shall not exceed the levels specified under Group Requirements 1 of this permit.

Particulate concentration emissions rate shall be established by the testing conducted on the source as detailed below.

Opacity shall be determined by Reference Method 9 of Appendix A to 40 CFR 60, filed by reference in 401 KAR 50:015, except when specified otherwise.

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**SOURCE DESCRIPTION:**

Emission Point #13: Ladle Metallurgical Furnace (LMF), Wheelabrator Baghouse, and Dust Handling equipment.

A Fuchs LMF with a maximum capacity of 150 tons of steel produced per hour, averaged over three heats, a Wheelabrator baghouse with a control efficiency of 99%, and the associated baghouse dust handling equipment.

**COMMENTS:**

If the production rate, P (tons/hour), is below or equals 30 TPH, then the particulate emissions rate (lbs/hr) shall not exceed  $3.59 \times P^{0.62}$ , and if P (tons/hour), is over 30 TPH then the particulate emissions rate (lbs/hr) shall not exceed  $17.31 \times P^{0.16}$  - 401 KAR 59:010.

Visible emissions shall not equal or exceed 20% opacity - 401 KAR 59:010.

The following formulas will be used in calculating the particulate emissions:

Average Hourly Particulate Emission Rate (lbs/hr) =[Monthly steel throughput rate (tons/month) x  
LMF particulate emission factor (lbs/ton of steel  
produced) / hours of  
operation (hrs/month)]

The LMF particulate emissions factor shall be established by the testing conducted on the source as detailed below. This emission factor shall be replaced by the number calculated whenever an emissions test or other change, approved by the Division, is carried out for this emission point. Records of any emission factors used shall be maintained at the source.

Annual emissions of nitrogen oxides, carbon monoxide, VOC, sulfur dioxide and particulates shall not exceed the levels specified under Group Requirements 1 of this permit.

Opacity shall be determined by Reference Method 9 of Appendix A to 40 CFR 60, filed by reference in 401 KAR 50:015, except when specified otherwise.

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**SOURCE DESCRIPTION:**

**14 (-) Parts Washers (12)**

**COMMENTS:**

To prevent the applicability of the control requirements per 401 KAR 61:095, the following conditions shall be satisfied for these units:

The cold cleaner shall have a remote solvent reservoir. The solvent used in the cold cleaner shall not have a vapor pressure that exceeds 33 mm Hg measured at 100°F. The cold cleaner solvent shall not be heated above 120°F. The sink-like work area shall have an open drain area less than 100 sq. cm. Evidence shall be provided that waste solvent shall be stored properly and disposed of with minimal loss due to evaporation.

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**SOURCE DESCRIPTION:**

**15 (-) Cooling towers (2)**

**COMMENTS:**

No chromium-based water treatment chemicals shall be used in the industrial process cooling towers.

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**EMISSION AND OPERATING CAPS DESCRIPTION:**

See comment of each source description.

**CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements.

At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.